CONFIDENTIAL

CLASSIFICATION CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

CD NO.

50X1-HUM

COUNTRY USSR

SUBJECT Scientific - Engineering, earth drills

HOW PUBLISHED Monthly periodical

WHERE PUBLISHED Moscow

DATE PUBLISHED Oct 1948

LANGUAGE Russian

DATE OF INFORMATION 1948

DATE DIST. 25 Sep 1950

NO. OF PAGES 1

SUPPLEMENT TO REPORT NO.

THIS IS UNEVALUATED INFORMATION

SOURCE Gornyy Zhurnal, No 10, 1948,

50X1-HUM

BSM-4 ELECTRIC DRILLING MACHINE

V. V. Mochalov

There is a tendency to mechanize the boring operations in peat production as much as possible. Preliminary work before uncovering peat deposits has been done manually, which has required a great amount of manpower. Mechanization of preliminary work was delayed because the proper type of drilling equipment was not available.

The BSM-4 electric drilling machine was designed to fill the gap in mechanization in peat production operations. After long tests, the machine is now in use. It is a metal pile driver mounted on a three-wheeled base. Electric motor, rotary, and impact mechanisms are assembled on a carriage which can be moved along vertical slides. The maximum drilling depth is 4 meters and the diameter of the hole is 60 millimeters, but these limits may be increased by using extra drilling rods and by increasing the diameter of the drilling tool. The machine uses a 5.8-kilowatt motor with 1,475 revolutions per minute at voltage of 380 volts. Two pairs of cylindrical gears transmit rotary motion to the drilling rod (150 revolutions per minute). Simultaneously, the electric motor drives the impact mechanism which gives the drilling rod 900 blows per minute.

The drilling process is cyclic and the cycle is measured by the advance of the drilling tool. The depth of tool advance for one cycle depends on the volume of the drill cavity. Full advance is attained when the cavity is filled with core and bore meal. The cycle varies from 28 to 57 centimeters depending on the type of ground. Cutters are made of pobedit and installed on the tool sleeve at a 25-degree offset from the radius. With the cutters in this position, all bore meal is directed inside the tool sleeve. The equipment has four drilling sleeves to avoid interruption of operations when removing the core from the sleeve. The drilling speed varies from 0.146 meters per minute for soft ground to 0.053 meters per minute for rocky ground.

- E N D -

CONFIDENTIAL

CLASSIFICATION CONFIDENTIAL

STATE	X	NAVY	X	NSRB	DISTRIBUTION
ARMY	X	AIR	X	FBI	